



# A Typology of Repeating Research for Computational Literary Studies

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slides: [dh-trier.github.io/trr/](https://dh-trier.github.io/trr/)

Replication and CLS | Feb 23, 2021

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# (1) What is Repeating Research?

# Repeating Research in Context

meta-studies

shared tasks

evaluation

**repeating research**

peer-review

Open Science

transparency

benchmarking

# Why does Repeating Research matter?

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- Why is it relevant?
  - Relates to issues of trust and reliability of research
  - Relates to generalizability and robustness of research
- Why is it timely?
  - Recently, repeatability of research has come to be questioned
  - First in biomedicine and psychology
  - More recently also in ML, NLP and CLS

## (2) A Typology of Repeating Research

# Dimensions of the typology



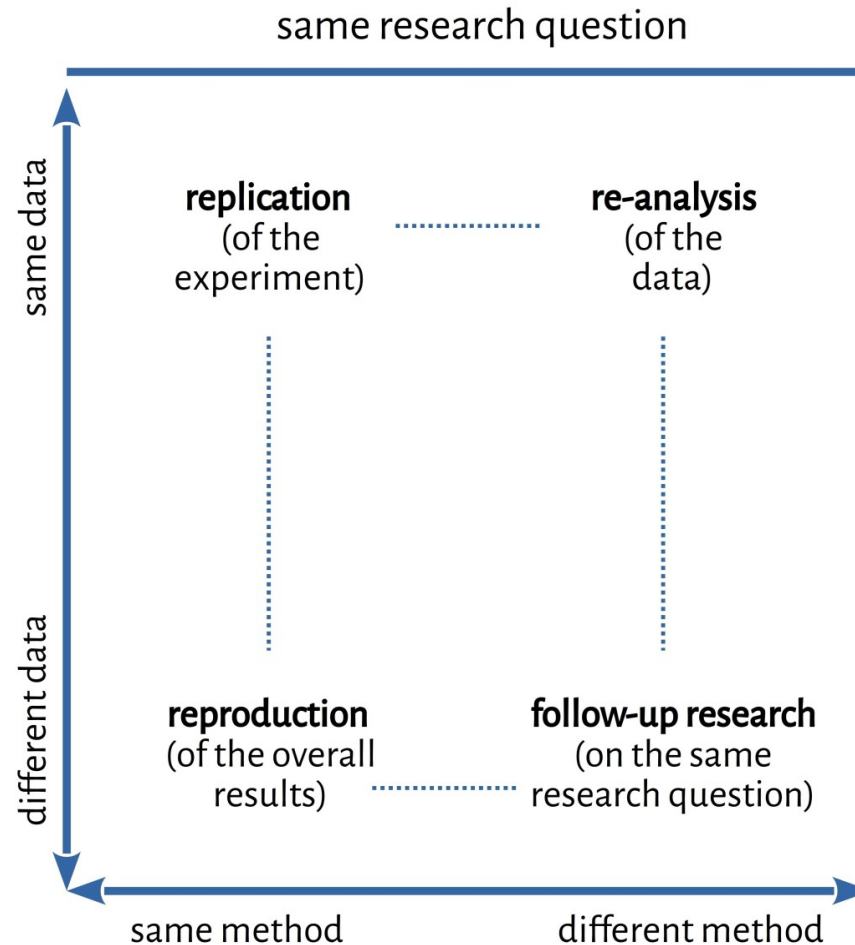
# Dimensions of the typology

- Three (four) key dimensions
  - research question
  - method / implementation
  - dataset used
  - (person or team)

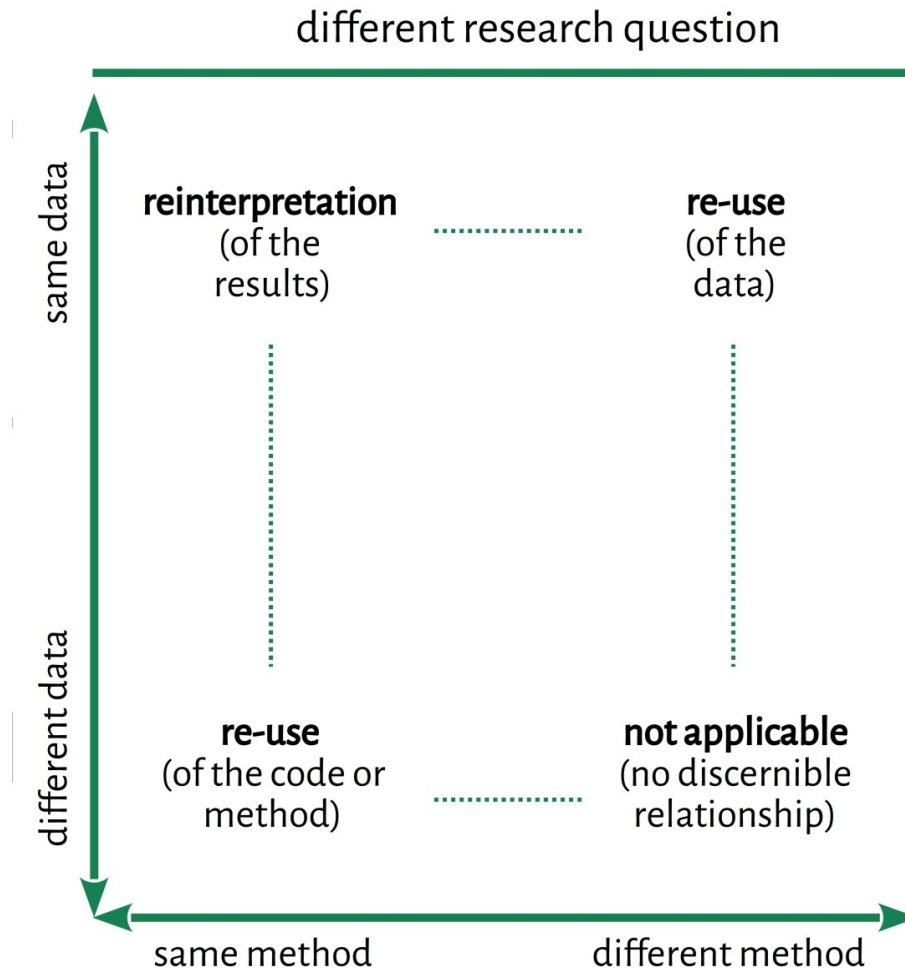
# Dimensions of the typology

- Three (four) key dimensions
  - research question
  - method / implementation
  - dataset used
  - (person or team)
- Each dimension can be
  - identical
  - more or less similar
  - different

# Typology (same research question)



# Typology (different research question)



# Conclusion

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- Strategy
  - Helps establish RR as part of CLS

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- Who is concerned by RR?
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- How to support RR?
  - Help make papers repeatable: Establish reporting standards for RR
  - Support practice of RR: Establish a RR publication category
  - Create incentives for RR: e.g. best RR paper award

# Recommended Readings

- Huber, Eva, and Çağrı Çöltekin, 'Reproduction and Replication: A Case Study with Automatic Essay Scoring', in Proceedings of the 12th Language Resources and Evaluation Conference (presented at the LREC 2020, Marseille, France: European Language Resources Association, 2020), pp. 5603–13 <https://www.aclweb.org/anthology/2020.lrec-1.688> [accessed 21 February 2021]
- Peng, Roger, 'The Reproducibility Crisis in Science: A Statistical Counterattack', Significance, 12.3 (2015), 30–32 <https://doi.org/10.1111/j.1740-9713.2015.00827.x>
- Plesser, Hans E., 'Reproducibility vs. Replicability: A Brief History of a Confused Terminology', Frontiers in Neuroinformatics, 11 (2018) <https://doi.org/10.3389/fninf.2017.00076>
- Romero, Felipe, 'Philosophy of Science and the Replicability Crisis', Philosophy Compass, 14.11 (2019), e12633 <https://doi.org/10.1111/phc3.12633>
- Da, Nan Z., 'The Computational Case against Computational Literary Studies', Critical Inquiry, 45.3 (2019), 601–39 <https://doi.org/10.1086/702594>
- Open Science Collaboration, 'Estimating the Reproducibility of Psychological Science', Science, 349.6251 (2015) <https://doi.org/10.1126/science.aac4716>